

What is claimed:

1. A liquid vegetable unsaturated alcohol mixture having an iodine value of 88 to 100 and a cloud point of less than 7°C, the unsaturated alcohol mixture  
5 being prepared by reduction of a vegetable unsaturated fatty acid mixture and/or an alkyl ester thereof in the presence of a zinc-type catalyst having a copper content of 30 ppm or less, the vegetable unsaturated fatty acid mixture being prepared from at least one vegetable oil  
10 selected from the group consisting of palm oil, coconut oil and palm kernel oil.
2. The liquid vegetable unsaturated alcohol mixture of claim 1 used in a material for cosmetics.
3. Use of the liquid vegetable unsaturated  
15 alcohol mixture of claim 1 as a material for cosmetics.
4. A derivative of the liquid vegetable unsaturated alcohol mixture of claim 1.
5. The derivative of the liquid vegetable unsaturated alcohol mixture of claim 4 which is any one of  
20 the following:
  - (a) an alkylene oxide adduct of the liquid vegetable unsaturated alcohol mixture;
  - (b) a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of a sulfuric  
25 acid ester of the liquid vegetable unsaturated alcohol

mixture or an alkylene oxide adduct thereof;

(c) carboxylic acid ether of the liquid vegetable unsaturated alcohol mixture or an alkylene oxide adduct thereof, or a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of the carboxylic acid ether;

(d) an ester of the liquid vegetable unsaturated alcohol mixture with an acid selected from the group consisting of fatty acids and lactic acid; and

(e) phosphate ester of the liquid vegetable unsaturated alcohol mixture or alkylene oxide adduct thereof, or a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of the ester.

6. A derivative of the liquid vegetable unsaturated alcohol mixture of claim 4 used as a material for cosmetics.

7. Use of the derivative of the liquid vegetable unsaturated alcohol mixture of claim 4 as a material for cosmetics.

8. A liquid vegetable unsaturated alcohol mixture having an iodine value of 88 to 100, a cloud point of lower than 7°C and a conjugated diene compound content of 1 wt.% or less.

9. The liquid vegetable unsaturated alcohol mixture according to claim 8, wherein the content of

volatile components is 500 ppm or less as measured by head space gas chromatography when the alcohol mixture is heated at 150°C for 10 minutes.

10. The liquid vegetable unsaturated alcohol  
5 mixture of claim 8 used in a material for cosmetics.

11. Use of the liquid vegetable unsaturated alcohol mixture of claim 8 as a material for cosmetics.

12. A derivative of the liquid vegetable unsaturated alcohol mixture of claim 8.

10 13. The derivative of the liquid vegetable unsaturated alcohol mixture of claim 12 which is any one of the following:

(a) an alkylene oxide adduct of the liquid vegetable unsaturated alcohol mixture;

15 (b) a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of a sulfuric acid ester of the liquid vegetable unsaturated alcohol mixture or an alkylene oxide adduct thereof;

(c) an ether carboxylic acid of the liquid  
20 vegetable unsaturated alcohol mixture or an alkylene oxide adduct thereof, or a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of such an ether carboxylic acid;

(d) an ester of the liquid vegetable unsaturated  
25 alcohol mixture with an acid selected from the group

consisting of fatty acids and lactic acid; and

(e) phosphoric acid ester of the liquid vegetable unsaturated alcohol mixture or an alkylene oxide adduct thereof, or a sodium salt, a potassium salt, a  
5 triethanolamine salt or an ammonium salt of the ester.

14. The derivative of the liquid vegetable unsaturated alcohol mixture of claim 12 used as a material for cosmetics.

15. Use of the derivative of the liquid  
10 vegetable unsaturated alcohol mixture of claim 12 as a material for cosmetics.

16. A liquid vegetable unsaturated alcohol mixture which is prepared by reduction of a vegetable unsaturated fatty acid and/or an alkyl ester thereof in  
15 the presence of a zinc-type catalyst having a copper content of 30 ppm or less, the vegetable unsaturated fatty acid mixture being prepared from at least one vegetable oil selected from the group consisting of palm oil, coconut oil and palm kernel oil.

20 17. The liquid vegetable unsaturated alcohol mixture according to claim 16, wherein the zinc-type catalyst is at least one catalyst selected from the group consisting of zinc-chrome oxide, zinc-aluminum oxide, zinc-aluminum-chrome oxide, zinc-chrome-manganese oxide,  
25 zinc-iron oxide and zinc-iron-aluminum oxide.

18. A liquid vegetable unsaturated alcohol mixture according to claim 16 that is prepared by slight hydrogenation of the obtained liquid vegetable unsaturated alcohol mixture.

5           19. The liquid vegetable unsaturated alcohol mixture according to claim 18, wherein the slight hydrogenation is carried out using a copper-containing catalyst.

10           20. The liquid vegetable unsaturated alcohol mixture according to claim 18, wherein the slight hydrogenation is carried out at a hydrogen pressure within the range of from 1 MPa to atmospheric pressure, and a temperature at 50 to 200°C.

15           21. The liquid vegetable unsaturated alcohol mixture according to claim 16 which is prepared by deodorizing the obtained liquid vegetable unsaturated alcohol mixture.

20           22. The liquid vegetable unsaturated alcohol mixture according to claim 21, wherein the deodorization is carried out by steam at 100 to 200°C, and 0.1 to 70 KPa with a steam blowing amount of 0.1 to 20 wt.%.

23. The liquid vegetable unsaturated alcohol mixture according to claim 16 which is prepared by a process including a distillation step.

25           24. The liquid vegetable unsaturated alcohol

mixture of claim 16 used as a material for cosmetics.

25. Use of the liquid vegetable unsaturated alcohol mixture of claim 16 as a material for cosmetics.

26. A derivative of the liquid vegetable  
5 unsaturated alcohol mixture of claim 16.

27. The derivative of the liquid vegetable unsaturated alcohol mixture of claim 26 which is any one of the following:

(a) an alkylene oxide adduct of the liquid  
10 vegetable unsaturated alcohol mixture;

(b) a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of a sulfuric acid ester of the liquid vegetable unsaturated alcohol mixture or an alkylene oxide adduct thereof;

15 (c) an ether carboxylic acid of the liquid vegetable unsaturated alcohol mixture or an alkylene oxide adduct thereof, or a sodium salt, a potassium salt, a triethanolamine salt or an ammonium salt of such an ether carboxylic acid;

20 (d) an ester of the liquid vegetable unsaturated alcohol mixture with an acid selected from the group consisting of fatty acids and lactic acid; and

(e) phosphoric acid ester of the liquid vegetable unsaturated alcohol mixture or an alkylene oxide  
25 adduct thereof, or a sodium salt, a potassium salt, a

triethanolamine salt or an ammonium salt of the ester.

28. The derivative of the liquid vegetable unsaturated alcohol mixture of claim 26 used as a material for cosmetics.

5           29. Use of the derivative of the liquid vegetable unsaturated alcohol mixture of claim 26 as a material for cosmetics.

30. A process for preparing a liquid vegetable unsaturated alcohol mixture, the process comprising the  
10 step of reducing a vegetable unsaturated fatty acid mixture and/or an alkyl ester thereof in the presence of a zinc-type catalyst having a copper content of 30 ppm or less, the vegetable unsaturated fatty acid mixture being prepared from at least one vegetable oil selected from the  
15 group consisting of palm oil, coconut oil and palm kernel oil.

31. The process according to claim 30, wherein the zinc-type catalyst is at least one catalyst selected from the group consisting of zinc-chrome oxide, zinc-  
20 aluminum oxide, zinc-aluminum-chrome oxide, zinc-chrome-manganese oxide, zinc-iron oxide and zinc-iron-aluminum oxide.

32. The process according to claim 30 which includes a step of slightly hydrogenating the obtained  
25 liquid vegetable unsaturated alcohol mixture.

33. The process according to claim 32, wherein the slight hydrogenation is carried out using a copper-containing catalyst.

5 34. The process according to claim 32, wherein the slight hydrogenation is carried out at a hydrogen pressure within the range of from 1 MPa to atmospheric pressure, and a temperature at 50 to 200°C.

35. The process according to claim 30 which includes a step of deodorizing the obtained liquid  
10 vegetable unsaturated alcohol mixture.

36. The process according to claim 35, wherein the deodorization is conducted by steam at 100 to 200°C, and 0.1 to 70 KPa with a steam blowing amount of 0.1 to 20 wt.%.

15 37. The process according to claim 30 which includes a step of distillation.